MV-90 XLPE Insulated, PVC Jacketed

5 kV – 35 kV, Wire Shielded

CME wire and cable
A Viakable Company

Features

UL Listed as MV-90.

Rated as Sunlight Resistance.

Oil Resistance I jacket.

True Triple extrusion system and closed handling raw materials system, to eliminate any contact with ambient, until extrusion process ends.

Application

Primary power and distribution circuits in industrial and commercial installations, power circuits in generating plants where line to ground fault current are within shield capabilities.

May be used in wet or dry locations, installed in raceways, duct, and open air, aerially or directly buried as permitted by NEC.

Standards

UL 1072

Medium Voltage Power Cables.

ICEA S-93-639/NEMA WC74

5 kV – 46 kV Shielded Power Cables.

ICEA S-97-682

Standard for Utility Shielded Power Cables Rated 5 kV – 46 kV.

AEIC CS8

Specification for Extruded Dielectric, Shielded Power Cables Rated 5 kV – 46 kV.

Specifications

Maximum operating voltage:

- 5 kV to 35 kV 100% and 133% IL

Maximum conductor operation temperatures:

Wet and dry locations

- Normal: 90 °C
- Emergency: 130 °C
- Short Circuit: 250 °C

Engineering Information

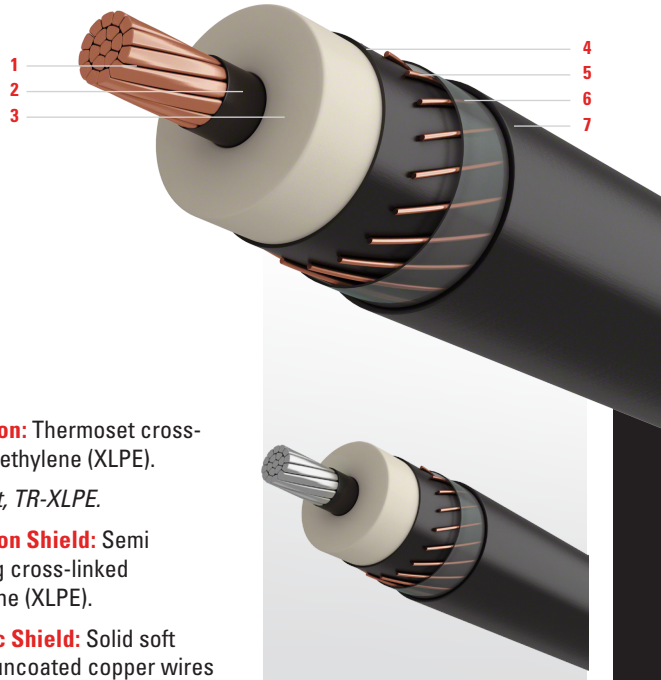
1. Conductor: Soft annealed uncoated copper compacted Class B per ASTM B496 or hard drawn Aluminum-1350 compacted Class B per ASTM B400.

On request, strand filled or compressed strand.

Sizes: 8 AWG (6 AWG Aluminum) up to 1000 kcmil.

On request, larger conductor sizes available.

2. Conductor Shield: Semi conducting cross-linked polyethylene (XLPE).



3. Insulation: Thermoset cross-linked polyethylene (XLPE).

On request, TR-XLPE.

4. Insulation Shield: Semi conducting cross-linked polyethylene (XLPE).

5. Metallic Shield: Solid soft annealed uncoated copper wires per ASTM B3, helically applied and uniformly spaced.

On request, copper tape shield.

6. Binder Tape: A suitable tape, as required.

7. Jacket: Black sunlight resistance and flame retardant polyvinyl chloride (PVC) compound.

Configuration Options:

On request, Triplex or Paralleled configurations.

Aluminum Conductor

Medium Voltage Cables - Single Conductor

5 kV XLPE Insulated

Size AWG or kcmil	Number of Strands	Conductor Nominal OD	100% and 133% Insulation Levels (90 mil)				
			Nominal Diameter Over Insulation	Jacket Thickness	Approximate Outside Diameter	Approximate Net Weight	
						Copper	Aluminum
		in	in	mil	in	lb/kft	
6	7	0.17	0.38	60	0.63	229	172
4	7	0.21	0.43	60	0.68	291	202
2	7	0.27	0.48	60	0.73	392	250
1	19	0.30	0.51	60	0.76	455	275
1/0	19	0.34	0.55	60	0.80	535	308
2/0	19	0.38	0.59	80	0.88	668	382
3/0	19	0.42	0.64	80	0.93	793	433
4/0	19	0.48	0.69	80	0.98	949	494
250	37	0.52	0.75	80	1.03	1096	559
350	37	0.62	0.84	80	1.13	1443	689
500	37	0.74	0.96	80	1.25	1952	877
750	61	0.91	1.14	80	1.45	2828	1215
1000	61	1.06	1.30	80	1.61	3660	1510

8 kV XLPE Insulated

Size AWG or kcmil	Number of Strands	Conductor Diameter	100% Insulation Level (115 mil)					133% Insulation Level (140 mil)				
			Nominal Diameter Over Insulation	Jacket Thickness	Approximate Outside Diameter	Approximate Net Weight		Nominal Diameter Over Insulation	Jacket Thickness	Approximate Outside Diameter	Approximate Net Weight	
						Copper	Aluminum				Copper	Aluminum
		in	in	mil	in	lb/kft		in	mil	in	lb/kft	
6	7	0.17	0.43	60	0.68	257	200	0.48	60	0.73	280	224
4	7	0.21	0.48	60	0.73	321	231	0.53	60	0.78	345	256
2	7	0.27	0.53	60	0.78	422	279	0.58	80	0.87	482	339
1	19	0.30	0.56	60	0.81	485	305	0.61	80	0.90	548	368
1/0	19	0.34	0.60	80	0.89	601	374	0.65	80	0.94	631	405
2/0	19	0.38	0.64	80	0.93	703	416	0.69	80	0.98	734	448
3/0	19	0.42	0.69	80	0.98	829	469	0.74	80	1.03	863	502
4/0	19	0.48	0.74	80	1.03	986	532	0.79	80	1.08	1021	566
250	37	0.52	0.80	80	1.08	1136	598	0.85	80	1.13	1172	635
300	37	0.57	0.85	80	1.13	1310	666	0.90	80	1.18	1349	704
350	37	0.62	0.89	80	1.18	1485	732	0.94	80	1.23	1524	771
400	37	0.66	0.93	80	1.22	1657	797	0.98	80	1.27	1698	838
500	37	0.74	1.01	80	1.32	2021	946	1.06	80	1.37	2066	990
600	61	0.81	1.10	80	1.41	2376	1085	1.15	80	1.46	2423	1132
750	61	0.91	1.19	80	1.50	2880	1267	1.24	80	1.55	2930	1317
1000	61	1.06	1.35	80	1.66	3718	1568	1.40	110	1.77	3876	1726

The above data are approximate and subject to normal manufacturing tolerances. Other sizes available upon request. Cables that comply with 8 kV 100% can also be marked 5 kV 133%.
Ampacities: Refer to beginning of section.

Technical Data *continued*

15 kV XLPE Insulated

Size AWG or kcmil	Number of Strands	Conductor Diameter	100% Insulation Level (175 mil)					133% Insulation Level (220 mil)				
			Nominal Diameter Over Insulation	Jacket Thickness	Approximate Outside Diameter	Approximate Net Weight		Nominal Diameter Over Insulation	Jacket Thickness	Approximate Outside Diameter	Approximate Net Weight	
						Copper	Aluminum				Copper	Aluminum
		in	in	mil	in	lb/kft		in	mil	in	lb/kft	
2	7	0.27	0.65	80	0.94	524	382	0.74	80	1.03	583	441
1	19	0.30	0.68	80	0.97	591	412	0.77	80	1.06	652	472
1/0	19	0.34	0.72	80	1.01	677	450	0.81	80	1.10	740	513
2/0	19	0.38	0.76	80	1.05	781	495	0.85	80	1.14	847	561
3/0	19	0.42	0.81	80	1.10	912	551	0.90	80	1.19	980	619
4/0	19	0.48	0.86	80	1.15	1073	618	0.95	80	1.24	1144	689
250	37	0.52	0.92	80	1.20	1226	689	1.01	80	1.32	1323	785
300	37	0.57	0.97	80	1.25	1405	760	1.06	80	1.37	1505	861
350	37	0.62	1.01	80	1.32	1606	852	1.10	80	1.41	1687	933
400	37	0.66	1.05	80	1.37	1782	922	1.14	80	1.46	1865	1005
500	37	0.74	1.13	80	1.44	2130	1055	1.22	80	1.53	2218	1142
600	61	0.81	1.22	80	1.53	2491	1201	1.31	80	1.62	2584	1293
750	61	0.91	1.31	80	1.62	3003	1390	1.40	110	1.78	3205	1592
1000	61	1.06	1.47	110	1.84	3960	1810	1.56	110	1.96	4118	1968

25 kV XLPE Insulated

Size AWG or kcmil	Number of Strands	Conductor Diameter	100% Insulation Level (260 mil)					133% Insulation Level (320 mil)				
			Nominal Diameter Over Insulation	Jacket Thickness	Approximate Outside Diameter	Approximate Net Weight		Nominal Diameter Over Insulation	Jacket Thickness	Approximate Outside Diameter	Approximate Net Weight	
						Copper	Aluminum				Copper	Aluminum
		in	in	mil	in	lb/kft		in	mil	in	lb/kft	
1	19	0.30	0.85	80	1.14	715	535	–	–	–	–	–
1/0	19	0.34	0.89	80	1.18	804	577	1.01	80	1.32	929	702
2/0	19	0.38	0.93	80	1.22	913	627	1.05	80	1.36	1042	756
3/0	19	0.42	0.98	80	1.27	1048	688	1.10	80	1.41	1181	821
4/0	19	0.48	1.03	80	1.34	1238	783	1.15	80	1.46	1353	898
250	37	0.52	1.09	80	1.40	1399	861	1.21	80	1.52	1517	980
300	37	0.57	1.14	80	1.45	1583	939	1.26	80	1.57	1706	1061
350	37	0.62	1.18	80	1.49	1767	1014	1.30	80	1.61	1893	1139
400	37	0.66	1.22	80	1.54	1947	1087	1.34	80	1.66	2076	1216
500	37	0.74	1.30	80	1.61	2304	1229	1.42	110	1.79	2544	1469
600	61	0.81	1.39	110	1.76	2778	1487	1.51	110	1.91	2972	1682
750	61	0.91	1.48	110	1.86	3305	1692	1.60	110	2.01	3509	1896
1000	61	1.06	1.64	110	2.04	4228	2078	1.76	110	2.16	4398	2248

The above data are approximate and subject to normal manufacturing tolerances. Other sizes available upon request.
Ampacities: Refer to beginning of section.

Technical Data *continued*

35 kV XLPE Insulated

Size AWG or kcmil	Number of Strands	Conductor Diameter	100% Insulation Level (345 mil)					133% Insulation Level (420 mil)				
			Nominal Diameter Over Insulation	Jacket Thickness	Approximate Outside Diameter	Approximate Net Weight		Nominal Diameter Over Insulation	Jacket Thickness	Approximate Outside Diameter	Approximate Net Weight	
						Copper	Aluminum				Copper	Aluminum
		in	in	mil	in	lb/kft		in	mil	in	lb/kft	
1/0	19	0.34	1.06	80	1.37	973	746	1.21	80	1.52	1116	889
2/0	19	0.38	1.10	80	1.41	1087	801	1.25	80	1.56	1233	947
3/0	19	0.42	1.15	80	1.46	1228	868	1.30	80	1.61	1379	1018
4/0	19	0.48	1.20	80	1.51	1401	947	1.35	80	1.66	1557	1102
250	37	0.52	1.26	80	1.57	1568	1030	1.41	110	1.78	1832	1295
300	37	0.57	1.31	80	1.62	1758	1113	1.46	110	1.83	2030	1385
350	37	0.62	1.35	80	1.66	1946	1193	1.50	110	1.87	2225	1472
400	37	0.66	1.39	110	1.77	2235	1375	1.54	110	1.95	2464	1604
500	37	0.74	1.47	110	1.84	2604	1529	1.62	110	2.02	2843	1767
600	61	0.81	1.56	110	1.96	3036	1746	1.71	110	2.11	3238	1947
750	61	0.91	1.65	110	2.06	3576	1963	1.80	110	2.21	3787	2174
1000	61	1.06	1.81	110	2.21	4470	2320	1.96	110	2.36	4695	2545

The above data are approximate and subject to normal manufacturing tolerances. Other sizes available upon request.
Ampacities: Refer to beginning of section.